

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph on page 1, lines 9 through 15 as follows:

The present invention relates to a structure having concavo-convex structures on the order of nanometers arranged at intervals on the scale of nanometers (hereinafter also referred to as a "nano structure"), an optical device, a magnetic device, a magnetic recording medium, and a method of manufacturing the structure.

Please amend the paragraph on page 1, lines 18 through 24 as follows:

As a technology of forming a nanostructure or microstructures on the surface of an object, a technology of forming pores of several hundred nm or less in size using an anodization for a film or substrate comprised of aluminum as a principal component rather than a lithography technology using light rays or electron beams is conventionally known.

Please amend the paragraph on page 2, lines 12 through 20 as follows:

The positions of pores formed using this technique are random, but a technique for obtaining regularly arrayed pore structures is proposed in recent years. This technique forms regularly arrayed concave structures on the surface of a substrate comprised of aluminum as a principal component using an optical lithography and imprint lithography,

etc., and conducts anodization using these structures as starting points of pores
(USP6139713 U.S. Patent No. 6,139,713).

Please amend the paragraph on page 13, line 20 through page 14, line 21 as follows:

FIG. 1 is a plan view illustrating the nano structure of the present invention. For example, using a technique such as an optical lithography, pore starting points 1 of a plurality of periodic array structures 6 made up of a hexagonal lattice area 3, a rectangular lattice area 4 and a graphite-shaped lattice area 5 are formed on the surface of a substrate as shown in FIG. 1. At this time, periodic structures such that pores 2 located on the boundaries among a plurality of periodic array structures 6 are shared are arranged continuously. A normal anodization voltage is uniquely determined depending on the period of pores, but when pore starting points are formed, it is possible to obtain pores having the same period as the starting point period regardless of a certain degree of voltage shifts. That is, with pore starting points whose period varies only slightly, it is possible to form regularly arrayed high aspect pores in a short time without producing any disorder of arrays. As the method of forming starting points of pore formation, it is also possible to actually form dent dents on the surface of a film to be subjected to anodization or mask areas other than starting points. Or it is also possible to form an anodization film on a substrate having projections and depressions with predetermined periodicity and use projections and depressions reflecting the projections and depressions of the base as starting points.

Please amend the paragraph on page 15, line 14 through page 16, line 11 as follows:

First, as step (2), concave structures having desired arrays are formed on the surface of a substrate on which an aluminum thin film is formed using an electron beam direct drawing method and these are used as pore starting points. As shown in FIG. 1, the array of pore starting points 1 consists of a hexagonal lattice area 3, a rectangular lattice area 4 and a graphite-shaped lattice area 5 arranged adjacent to one another and pores 2 on the boundary of the adjacent areas are shared by both areas. That is, the two adjacent areas share an array of pores with equal periodicity on the boundary. Black bullets 1 in FIGS. 2A to 2C indicate projected positions of pores on a plane of the hexagonal lattice area, rectangular lattice area and graphite-shaped lattice area in FIG. 1. In FIGS. 2A to 2C, a period 8 of the hexagonal lattice area 3 is 200 nm, a period 9 of the rectangular lattice area 4 in the Y direction 9 is 200 nm, that of the X direction is 250 nm and the most proximate distance 10 of the graphite-shaped lattice area 5 is 200 nm. According to this structure, when $B = 200$ nm that is minimum value in periods, the allowed periodic array structures are in the range of 150nm to 300nm, these are included in $0.75B$ to $1.5B$.

Please amend the paragraph on page 18, line 10 through page 19, line 7 as follows:

As a device, pores with hexagonal lattice areas arranged on both sides of a rectangular lattice area are formed. The method of formation is the same as that of

Embodiment 1 and then polystyrene with light-emitting pigment is charged into the pores. Since the photonic band structure of the rectangular lattice area is different from that of the hexagonal lattice area, wavelengths which are easily guided vary depending on their respective structures. For this reason, when light wave which propagates through the rectangular lattice area but does not propagate through the hexagonal lattice area is introduced into the pores in the rectangular lattice area in the vertical direction 16 (see FIG. 4) and if this structure is regarded as a light waveguide, the rectangular lattice area becomes a core and the hexagonal lattice area becomes a cladding and light wave propagates with lower loss compared with a normal two-dimensional light waveguide. Filling arbitrary pores in the core area with a light-emitting pigment makes it possible to excite and make propagate light waves with different wavelengths and this is applicable to an optical device. In FIG. 4, reference numeral 15 denotes a light-emitting material and 17 denotes a light-emitting direction.